

The following is a complete listing of the pending claims.

1. (Currently Amended) A method for recognizing a valid receiving path for demodulating received signals out of a plurality of receiving paths in a CDMA wireless telecommunication system, comprising the steps of:

receiving at least one set of signals through a transmission path, said set of signals ~~being comprised of~~ including a predetermined number of received signals;

generating at least two spread codes each of which has its own delay time, said spread code ~~being comprised of~~ including a predetermined number of spread code bits;

calculating at least two correlation values of said set of signals with said at least two spread codes; and

A⁵ recognizing said path as a valid receiving path for demodulating said received signals based on said at least two correlation values.

2. (Original) A method according to claim 1, wherein said at least two correlation values are a peak correlation value and a correlation value other than said peak correlation value.

3. (Original) A method according to claim 2, wherein said step of recognizing said path as a valid receiving path comprises the steps of:

calculating a plurality of ratios of said peak correlation value to a plurality of correlation values other than said peak correlation value;

comparing said plurality of ratios with at least one predetermined comparison threshold value; and

recognizing said path as a valid receiving path for demodulating said received signals based on the result of comparisons of said comparing step.

4. (Original) A method according to claim 1, wherein said at least two correlation values are neighboring values.

5. (Original) A method according to claim 4, wherein said step of recognizing said path as a valid receiving path comprises the steps of:

calculating a plurality of ratios of a plurality of respectively neighboring correlation values;

comparing said plurality of ratios with at least one predetermined comparison threshold value; and

recognizing said path as a valid receiving path for demodulating said received signals based on the result of comparisons of said comparing step.

6. (Original) A method according to claim 1, wherein said step of recognizing said path as a valid receiving path is the step of recognizing said path as a valid receiving path for demodulating said received signals based on the difference between said at least two correlation values.

7. (Currently Amended) A method for recognizing a valid receiving path for demodulating received signals out of a plurality of receiving paths in a CDMA wireless telecommunication system, comprising the steps of:

receiving at least one set of signals through a transmission path, said set of signals ~~being comprised of~~ including a predetermined number of received signals;

generating at least two spread codes each of which has its own delay time, said spread code ~~being comprised of~~ including a predetermined number of spread code bits;

calculating at least two correlation values of said set of signals with said at least two spread codes;

forming a path waveform of said path ~~represented as~~ according to a correlation profile based on said at least two correlation ~~profile~~ values;

determining whether there is a distortion on said path waveform; and

recognizing said path as a valid receiving path for demodulating said received signals based on the result of determination of said determining step.

8. (Original) A method according to claim 7, wherein said at least two correlation values are a peak correlation value and a correlation value other than said peak correlation value.

9. (Currently Amended) A method for recognizing a valid receiving path for demodulating received signals out of a plurality of receiving paths in a CDMA wireless telecommunication system, comprising the steps of:

receiving at least one set of signals through a transmission path, said set of signals ~~being comprised of~~ including a predetermined number of received signals;

generating at least two spread codes each of which has its own delay time, said spread codes ~~being comprised of~~ including a predetermined number of spread code bits;

calculating at least two correlation values of said set of signals with said at least two spread codes;

forming a path waveform of said path ~~represented as~~ according to a correlation profile based on said at least two correlation ~~profile~~ values;

comparing said peak correlation value with a predetermined path recognition threshold value;

determining whether there is a distortion on said path waveform; and

recognizing said path as a valid receiving path for demodulating said received signals based on the results of comparison of said comparing step and determination of said determining step.

10. (Currently Amended) A method according to claim 9, wherein said step of recognizing said path as a valid receiving path is a step of recognizing said path as a valid receiving path for demodulating said received path when it is determined that said peak correlation value is ~~smaller~~ greater than said predetermined path recognition threshold value and that there is no distortion on said path waveform.

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11. (Currently Amended) A CDMA wireless telecommunication mobile station for receiving a set of telecommunication signals through a telecommunication path from a base station, comprising:

a spread code generator for generating at least two spread codes each of which has its own delay time, said spread codes ~~being comprised of~~ including a predetermined number of spread code bits;


a correlator for calculating at least two correlation values of said set of signals with said at least two spread codes; and

a path recognizing unit for recognizing said path as a valid receiving path for demodulating said received signals based on said at least two correlation values.

12. (Currently Amended) A CDMA wireless telecommunication mobile station according to claim 11, further comprising a waveform distortion detector for determining whether there is a distortion on a path waveform of said path represented as a correlation profile, said correlation profile being formed based on said at least two correlation ~~profile~~ values.

13. (Original) A CDMA wireless telecommunication mobile station according to claim 12, wherein said at least two correlation values are a peak correlation value and a correlation value other than said peak correlation value.

14. (Currently Amended) A CDMA wireless telecommunication mobile station according to claim 13, wherein said waveform distortion detector determines whether there is a distortion on said path waveform of said path ~~represented as~~ according to a correlation profile based on a ratio of said peak correlation value to a plurality of correlation values other than said peak correlation value.

 15. (Original) A CDMA wireless telecommunication mobile station according to claim 12, wherein said at least two correlation values are neighboring correlation values.

16. (Original) A CDMA wireless telecommunication mobile station according to claim 15, wherein said waveform distortion detector determines whether there is a distortion on said path waveform of said path represented as a correlation profile based on a plurality of ratios of a plurality of respectively neighboring correlation values.

17. (Original) A CDMA wireless telecommunication mobile station according to claim 12, wherein said waveform distortion detector determines whether there is a distortion on said path waveform of said path represented as a correlation profile based on a difference of said at least two correlation values.

18. (Currently Amended) A CDMA wireless telecommunication system comprising a mobile station for receiving a set of telecommunication signals through a telecommunication path from a base station, said mobile station comprising:

a spread code generator for generating at least two spread codes each of which has its own delay time, said spread codes ~~being comprised of~~ including a predetermined number of spread code bits;

a correlator for calculating at least two correlation values of said set of signals with said at least two spread codes;

a waveform distortion detector for determining whether there is a distortion on a path waveform of said path according to a correlation profile, said correlation profile being formed based on said at least two correlation values; and

a path recognizing unit for recognizing said path as a valid receiving path for demodulating said received signals based on said at least two correlation values; ~~and~~

~~a waveform distortion detector for determining whether there is a distortion on a path waveform of said path represented as a correlation profile, said correlation profile being formed based on said at least two correlation profile values.~~

19. (Original) A CDMA wireless telecommunication system according to claim 18, wherein said at least two correlation values are a peak correlation value and a correlation value other than said peak correlation value.

20. (Currently Amended) A CDMA wireless telecommunication system according to claim 18, wherein said waveform distortion detector determines whether there is a distortion on said path waveform of said path ~~represented as~~ according to a correlation profile based on a ratio of said peak correlation value to a plurality of correlation values other than said peak correlation value.

21. (New) A CDMA wireless telecommunication system as claimed in Claim 18, comprising:

wherein said waveform distortion detector determines the existence of said distortion on said path waveform of said path according to a shape of said correlation profile.

22. (New) A CDMA wireless telecommunication system as claimed in Claim 18, comprising:

wherein said waveform distortion detector determines the existence of said distortion on said path waveform of said path according to a slope derived from said two correlation values.
